

II. REMARKS

The final Office Action dated March 29, 2007, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1 and 3-20 are pending.

At this time, claim 1 is amended, and claim 2 is canceled. Support for the amendments can be found in the specification and claims as originally filed. For example, claim 1 has been amended to replace the term "comprising" with "consisting essentially of." Further, claim 1 has been amended to incorporate the subject matter of canceled claim 2. As such, Applicants believe that no new matter is added and respectfully request reconsideration and withdrawal of the rejection.

Entry of this Amendment is proper under 37 C.F.R. § 1.116 since this Amendment: (a) places the application in condition for allowance for reasons discussed herein; (b) does not raise any new issues regarding further search and/or consideration since the Amendment amplifies issues previously discussed throughout prosecution; (c) does not present any additional claims without canceling a corresponding number of finally-rejected claims, and (d) places the application in better form for appeal, should an appeal be necessary. Entry of this Amendment is thus respectfully requested.

Claims 1-20 have been rejected under 35 U.S.C. § 103(a) over Kruecke et al. (U.S. Patent No. 6,080,799) in view of Moore et al. (U.S. Patent No. 5,658,962). Applicants traverse the rejection.

The presently claimed invention is directed to "[c]ompositions of fluids for preparing polymeric foams, consisting essentially of: HFC 365mfc from 5 to 8 parts by weight/100 part of polymeric foam; [and] one or more fluorinated compounds, liquid at room

temperature and having boiling point from 50°C to 150°C, and having formula R'-R_f-R (I)... wherein R' is-(O)_{n0}-C_nF_{2n}H or -(O)_{n0}-C_nH_{2n+1}..., wherein the ratio by weight of the compounds of formula (I) to the HFC 365mfc ranges from 0.005:1 to 0.1:1 " (present claim 1) (emphasis added).

Applicants note that the technical problem addressed by the presently claimed invention is to have available mixtures comprising HFC 365mfc, to be utilized in substitution of HFC 141b, to obtain polymeric foams, in particular polyurethane foams, having improved properties in regard to maintenance in time of the thermoinsulating properties, in particular thermal conductivity (see page 4, lines 17-22 of the present specification). Applicants also note that compositions obtained by using HFC 365mfc alone have been found to be unsatisfactory (see specification, page 4, lines 9-15). Applicants submit that the compositions of the presently claimed invention, which consist essentially of "HFC 365mfc... [and] one or more fluorinated compounds" surprisingly and unexpectedly have been shown to have a lower thermal conductivity than a comparative polyurethane foam obtained by using the blowing agent HFC 365mfc alone (see Table II, specification, page 24). Further, Applicants submit that the improved thermoinsulating properties are maintained over time (specification, page 10, lines 14-17).

Applicants submit that in contrast to the presently claimed invention, Kruecke et al. merely discloses "mixtures... [that] contain or consist of 50 to 99% by weight of 1,1,1,3,3-pentafluorobutane (HFC 365 mfc) and 1 to 50% by weight of at least one fluorinated hydrocarbon selected from the group consisting of 1,1,1,2-tetrafluoroethane, 1,1,1,3,3-pentafluoropropane, 1,1,1,3,3,3-hexafluoropropane, and 1,1,1,2,3,3,3-heptafluoropropane" (Kruecke et al., col. 1, lines 54-60) (emphasis added). Specifically, Kruecke et al. discloses

that “the blowing agents may, if desired, contain fluorinated hydrocarbons such as 1,1,1,2-tetrafluoroethane, 1,1,1,3,3-pentafluoropropane, 1,1,1,3,3-pentafluorobutane, or 1,1,1,3,3,3-hexafluoropropane” (Kruecke et al., col. 1, lines 32-36) (emphasis added).

Applicants submit that Kruecke et al. does not teach or suggest the use of the fluorinated hydrocarbons, in particular, the hydrofluoroethers, of the presently claimed invention. As such, Applicants submit that Kruecke et al. does not teach or suggest the presently claimed invention, and it does not address the technical problem of having mixtures comprising HFC 365mfc to obtain polymeric foams having improved properties in regard to maintenance in time of the thermoinsulating properties.

Further, Kruecke et al. discloses “plastic foams, obtained by using the inventive mixtures..., which contain the mixture in closed cells” (Kruecke et al., col. 3, lines 55-57) (emphasis added). Applicants submit that based on the teachings of Kruecke et al. and without the benefit of hindsight, one of ordinary skill in the art would not be motivated to substitute the mixtures of blowing agents of Kruecke et al. with hydrofluoroethers. Applicants submit that this is the case, because Kruecke et al. teaches that the disclosed composition has an acceptable foaming and cell regulating effect, since the “inventive mixtures” are used in “closed cells.” Further, as Kruecke et al. mentions a variety of cell regulators, such as paraffins, fatty alcohols, and polydimethylsiloxanes (Kruecke et al., col. 4, lines 28-37), Kruecke et al. does not provide any motivation for one of ordinary skill in the art to select the particular hydrofluoroethers of formula (I) of the presently claimed invention. As such, Applicants submit that one of ordinary skill in the art would not be motivated to modify the composition disclosed in Kruecke et al. to arrive at the presently claimed invention.

Applicants submit that Moore et al. does not satisfy the deficiencies of Kruecke et al. Rather, Moore et al. merely discloses “omega-hydrofluoroalkyl ether compounds [that]... can be used in applications where... CFCs, HCFCs or halons have been used, for example, as... blowing agents or cell size regulators in making polyurethane foam insulation” (Moore et al., col. 4, lines 4-12) (emphasis added).

Further, Applicants submit that Moore et al. does not address the technical problem of the presently claimed invention. Applicants also submit that there is no teaching or suggestion in Moore et al. to use hydrofluoroether compounds with HFC compounds, much less HFC 365mfc, wherein “the ratio by weight of the compounds of formula (I) to the HFC 365mfc ranges from 0.005:1 to 0.1:1” (present claim 1).

Therefore, Applicants submit that one of ordinary skill in the art, based on the teachings of Kruecke et al. and Moore et al., and without the benefit of hindsight, would not be motivated to modify the compositions of Kruecke et al. and Moore et al. to arrive at the presently claimed invention.

For at least the above reasons, Applicants submit that Kruecke et al. and Moore et al. do not teach or suggest all of the elements of the presently claimed invention. As such, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-20 under 35 U.S.C. § 103(a) over Kruecke et al. in view of Moore et al.

III. CONCLUSION

In view of the amendments and remarks above, Applicants respectfully submit that this application is in condition for allowance and request favorable action thereon. Should the Examiner believe anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' representatives at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees that may be required with respect to this paper or credit any overpayment to Counsel's Deposit Account 01-2300, making reference to Attorney No. 108910-00121.

Respectfully submitted,



Yelee Y. Kim
Registration No.: 60,088

Customer No.: **004372**

ARENT FOX LLP
1050 Connecticut Avenue, N.W.
Washington, D.C. 20036-5339

Telephone No.: 202-857-6000
Facsimile No.: 202-857-6395

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Enclosure: One (1) month Petition for Extension of Time